

PHG600-68-50

- Fiber reinforced thermosetting preimpregnated materials for aircraft interior parts.
- Woven fabric of E-glass filament yarn Style 7781, 296 g/m², 8H satin, preimpregnated with 53% phenolic resin PH600.
- Self-adhesive resin system for sandwich panel application
- Non-halogenated resin formulation
- Excellent FST behaviour
- Outstanding adhesion to core materials
- Adjustable tackiness and retarded flow during curing
- Long shelf and shop life

Description

PHG600-68-50 consists of a E-glass fabric Style 7781, impregnated with the phenolic resin PH600. This resin is a halogen-free and self-adhesive phenolic system designed for wide variety of manufacturing processes, retarded flow during curing, excellent heat-release and smoke-density properties and outstanding adhesion to cores and metallic substrates.

The prepreg is very suitable for the manufacturing of light-weight composite sandwich structures for aircraft interior with high interlaminar shear strength and outstanding adhesion to honeycomb cores. Its tackiness is adjustable between dry and tacky to meet the fabrication requirements for press cured flat parts as well as vacuum or autoclave cured complex parts.

Both monolithic and sandwich structures can be easily manufactured with this prepreg. The curing can be performed by press, vacuum and autoclave moulding with a pressure of at least 0.07 MPa.

This prepreg meets the following AIRBUS material performance specification:

- ABS5047-08
- AIMS 05-10-002 (certification)

Cured laminates fulfil the flame-retardant specifications:

- FAR 25.853 (self-extinguishing)
- ABD 0031

The prepreg material is suitable for:

- Aviation and aerospace industries
- Marine and automotive applications

Prepreg Properties

	Test method	Value
Resin		Phenolic
Prepreg Weight	EN 2329	620 ±30 g/m ²
Volatile	EN 2330 (180°C / 10 min)	< 8.0 %
Resin Flow	EN 2332 (4 plies, 140°C, 10 min, 4 bar)	> 15 %
Tackiness		adjustable tack
Fiber Material		E-glass
Fabric Weight	EN 2331	296 g/m ² ± 5%
Weave Style		8H satin
Service Temperature (Cured State)		-55°C up to +90°C
Resin Content	EN2331	53.0 ± 3%

Delivery Form and Storage

Prepreg sizes	Roll length / Roll width	50 / 1.0 m
Storage Life (from delivery date)	Days at RT / Months at -5°C	60 / 6

Curing Conditions

	Cycle
Temperature	125/135/155°C
Cure Time	120/75/30 min
Spec. Pressure	0.07 MPa
Heat-up	3 K/min from 60°C (max)
Cool-down	4 k/min to 60°C
Remove material at	at least 60°C
Recommended curing process	Press, Autoclave, Vacuum-bag

Mechanical Properties (Typical Values)

	Temp. (°C)	Standard	Results	
Flexural Strength (warp)	RT 80	ISO 178	330 290	MPa
Flexural Modulus (warp)	RT 80	ISO 178	16 14	GPa
Tensile Strength (warp)	RT 80	ISO 527-4	270 230	MPa
Tensile Modulus (warp)	RT	ISO 527-4		GPa
Interlaminar Tensile Shear Strength (warp)	RT 80	AITM 1.0019	13 12	MPa
Climbing Drum Peel ¹	RT 80	EN 2243-3	130 110	N/75 mm
Bending Load (4-P) ¹	RT 80	AITM 1.0018	970 620	N
Tg (TMA)			140	°C

1) Sandwich 2 plies/side; core: 3.2-48 kg/m³ 9.4 mm (honeycomb)

Burning Behavior ²

		Test methods	max. mean values	
Flammability vertical, 60s flaming	burn length after flame time after flame time of drips	AITM 2.0002A	< 100 0 0	mm s s
Max. specific optical smoke density within 4 min	flaming mode	AITM 2.0007A	< 5	Ds
Heat release		AITM 2.0006	< 35	$\frac{kW}{m^2}$
Heat release rate		AITM 2.0006	< 65	$\frac{kW \cdot min}{m^2}$

2) Laminate 1 ply cured



Notice

The data have been obtained from representative sample specimens. Because the properties depend strongly on the fabrication and testing conditions, Gurit cannot guarantee that the data listed above will be achieved with other processes and equipment.

Gurit (Zullwil) AG

Fabrikweg 54
CH-4234 Zullwil
Switzerland

T +41 (0) 61 795 06 01

F +41 (0) 61 795 06 04

Gurit (Kassel) GmbH

Otto-Hahn-Str. 5
D-34123 Kassel
Germany

T +49 (0) 561 99 85 63 0

F +49 (0) 561 99 85 63 22

E info@gurit.com

W www.gurit.com